131 /99 cont./
167 As is seen, the Tukano group is found distributed both in Colombian territory and Brazilian, and the migratory movements of natives between these two countries are quite frequent.

241 The Tukano work the land by means of the slash-and-burn
[462] method. The piece of ground intended for agriculture is always cleaned of underbrush and trees by the /100/ men, a job at which each man works individually or assisted by his male
[412] relatives. At one time, before the arrival of the Creole rubber
[177] workers in the region, the trees and underbrush were cut with stone axes, but since the arrival of the rubber worker the machete has been introduced, and today no Tukano Indian would consider using the lithic instrument again.

Trees of great size are generally left in the place in which they fell, but small trees and bushes are burned toward the end of summer, or the dry season. The ashes obtained from the burning are used as fertilizer to improve the soil, but owing to the thin vegetal layer, to erosion, and to the general poorness of the land, the Tukano Indian is obliged to select and clear a
[242] new garden every three or four years. The method of crop rotation is not practiced because the forest vegetation rapidly returns to invade the land that is not cultivated and tended. The field under cultivation rarely exceeds one or two hectares.

[412] The planting is done immediately after finishing the burning, among the stumps of the felled trees and the trunks of the toppled trees. Probably the only aboriginal implement used in the planting is the planter's stick (2),

2. Digging-stick /this term is given in English/.

which is used primarily to loosen the earth and to open holes in it for planting seeds or young plants. The ground is rarely cultivated and tended after the planting is done, but weeds are pulled out and care is taken that the forest does not invade the garden.

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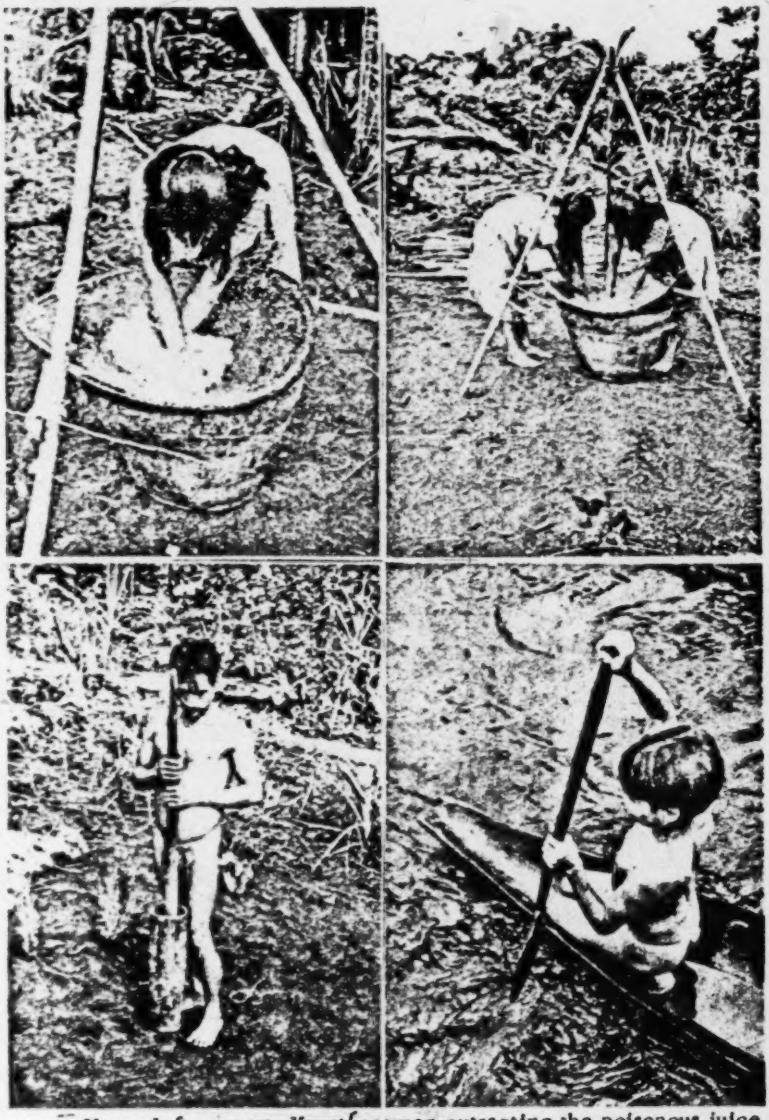

Upper left corner: Yuruti woman extracting the poisonous juice and the starch from the grated bitter yuca.

Upper right corner: Two Yuruti women performing the same operation.

Lower left corner: Tukano man pounding coca roasted at the fire.

Lower right corner: Tukano boy rowing. Note the typical position in which he is seated.

(Photos by M. Fulop.)

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Upper left corner: Yuruti woman using the planter's stick ("digging stick") in the garden.

Upper right corner: Typical way of carrying the baskets where the roots of bitter yuca are put.

Lower part: Two views of Siriano Indians in typical seated position.

(Photos by M. Fulop.)

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Upper part: Yuruti woman grating bitter yuca.

Lower part: Siriano man weaving balaya (basket).

(Photos by M. Fulop.)

/Illustrations facing p. 161 in the original source./

Fan (wẽrĩ-rõ), urupema (sũõ), cumatá (tõ-pa) Stone axes (õxtã-komé)

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Tipiti (wãx-tĩ-kẽ-õ) Sieves (baxti)

/182 cont./

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*[192] Oven (axta-ro) and large vessel for drinks (pẽru-tõ)

The ovens of large dimensions are manufactured at the place where they will be used. That is, on top of the furnace, previously prepared, the woman arranges a grate of quite compact poles, spreads on top a fine layer of earth, for the purpose of better leveling, and, with the mud ropes, starts making the oven, from the center of the flat part, until she reaches the dimensions that she desires. After it is dry, it is fired right there, as is done with the camotins.

Among the Suryana we saw a large oven prepared on top of an excavation made in the floor of the house, serving as a mold. It was left to dry right there, and afterwards the oven was fired.

*[192] /183/ An oven with slightly higher rims, for the preparation of flour, is to be distinguished and is called poká-axteri axtá-ro, and one with lower rims for that of beijú is the ahũ-ga peóri-axtá-ro.

b) Wooden implements.

• 412 *[192] The tools for their work in wood were originally the stone ax, õxtã-komé, the adze, syó-a, also of stone, and fire, pexká-mẽ. With a piece of dark diabase (15),

15. They are found in some cachoeiras, for example, in the Pirá-paraná, and already semiworked by the waters.

polished against the stones, they made their primitive ax. For

/183 cont./

412 that it was enough to set the diabase in a crack at the end of a straight stick, in the same position in which we mount our iron axes. With the help of tucum thread and breu /a substance [192] like pitch/ the necessary stability would be assured. The adze resulted from a smaller piece of diabase tied to the end of a curved stick, like a hook, yaxpú. Today the syó-a is only an instrument used as an ornament at the dances, hung on the left shoulder.

501 [192] 1) Canoe. The canoe, yuxkõ-sõ, is an implement of prime necessity, since these tribes live in a region where the water-courses constitute the only means of communication (16),

16. The "varadouros" /see footnote 5, p. 10/ through the forest are few and of secondary importance.

and fish is one of the principal foods. Today several tribes know how to build their canoes; but the skilled canoe-makers are the Tuyuka, Bará, Mikura, and Baniva.

The rivers of the region being large or with many cachoeiras and stones, they cannot use canoes made of bark, like other tribes (17),

17. The explorer Lobo D'Almada also speaks of canoes, with pachiubas estribadas (?) /propped or supported paxiubas (a kind of palm)/. They were dangerous, however, and were used for two or three men to go down the Tiquié in the stretch without cachoeiras. (Cf. "Lobo D'Almada," by Arthur Cesar Ferreira Reis -- Manaos, 1940, p. 73.)

but of very resistant wood and of only one trunk. Some of three meters in length and about 40 centimeters in width; others, large logs of eight to ten meters in length and 100 to 120 centimeters in width. All, however, with high and pointed stern

*192 241 313 /245 cont./

They "go around" the clearing (pũ-pé: it is the Tukano term that they use), that is, they mark off from the rest of the forest the area they want, with a small lane, cutting down the small plants and breaking branches. Formerly they did it only [412] [177] with the stone ax, õxtã komé; today clearing is done with the help of the machete, di-phĩ, and also at times with the iron ax, komé. The work consists essentially of breaking off the bushes and going around the large trunks with blows in such a way as to make the bark come off. With this the tree would dry and could then be burned. Once all the trees are dried in a more or less square area of about 50 or 100 meters on a side (according to the number of persons in the family), fire is set at various spots, and thus the gigantic trees either are incinerated or are reduced to a blackened trunk, which often falls to the ground. The clouds of smoke that rise here and there from the green /246/ forest reveal the places where a good burning, õhõã-dyakã-siri, is taking place.

If the burning was not very successful, because the sticks were not dry or because of a lack of wind, the work is done again, taking down branches, assembling them around the trees -- this is called coivara, in Tukano doxté-peosé, and burning is done anew.

[423] [476] Although the clearing is individual or, better, family property, for the work of clearing and burning the one interested will ask for the collaboration of his companions in the maloca or in the povoado; or, if he lives isolated, that of the closest inhabitants. And not only of his own tribe, but even of another nation. This collective work (cf. IX -- 2) is called neõsé (in Nheengatú ayurí). The immediate pay, that is, on the day or days of work, is a plentiful caxirí for all the workers; and more distantly his own help when solicited for identical work for the benefit of others. The ayurí is always practiced whenever the participation of many persons is needed for one job, for example, to cut and bring wood from the forest, to put in place the timberwork of a house roof, etc. The ayurí is a practice that is still in force even among the caboclos of the Rio Negro.

/373 cont./

764 although the apparent motive is the ambition and the interests of the Indian. And they have been seen to take long trips in order to acquire some object that belonged to the deceased.

[412] The grave, sufficiently long and not very deep, opened formerly with a simple pointed stick and the hands, is made in the central nave of the maloca (91),

> 91. In January of 1948 in Ambaíba (Colombia, river Querari) the Kubêwãna were preparing a new maloca, when the death of an Indian took place. They buried him, then, in the area of the new maloca. Since this was still without any covering, however, they improvised a little roof of straw over the grave, a meter above the ground, "so that the dead one will not get the rain."
>
> Near Matapí (river Uaupés) there is an island known precisely as the "island of the cemetery," because the Wanana buried their dead there. We do not know whether this was due to the influence of the civilized.

without any obligatory orientation. On that place, precisely, where he spent the happiest hours of his life, preparing his bow and arrow, adorning himself with the ornaments, in endless talks with his tribal brothers, and danced during the long nights of the poosé (dabacurí); as if the living wished to maintain union with the dead.

The canoe is then placed in the grave, there being renewed among those present, collectively, the "panegyric-weeping (92).

[797]

> 92. This is verified even for the burials that take place in the cemeteries of the Missions, with the assistance of the Missionary, who many times finds himself obliged, after a few minutes, to ask that they cease the weeping

/481 cont./

412 There are still a few hours of daylight: the man goes to prepare his arrows, to separate the tucum for the fishing nets or to work on his little seat or on his sieve. The woman will weave a new hammock or will attend to the preparation of the mandioca for the following day. Each one at his task.

[177] [296] Among the individuals of the new generation, the man will perhaps mend or wash his own clothes, as the woman does hers. All tasks done with tranquillity, in the intimacy of family life, to the rhythm of an animated conversation, with noisy laughter.

*[192] When the sun goes down, the wood is already piled up inside the house and the vessels are filled with water. Men and children settle down in their hammocks, while the woman is busy boiling the Ñõxkã, with some wild fruit, and all help themselves with their cuias, like evening tea.

The conversation continues more briskly, the episodes of the day are picturesquely narrated, the visitors who appeared, the launches they passed, the news of other malocas. When the night is further advanced, it will perhaps be nine o'clock, the doors of the maloca are lowered. Sleep first conquers the children, later the older ones. Around 11 o'clock or later, however, one will hear a question that comes from a hammock, an ãã and an answer from another hammock. Afterwards the silence is interrupted only by the crackling of so many small fires in each apartment of the large dwelling. The fire never goes out inside the maloca; at any time of the night one may see some figure jump out of a hammock in order to stir up the fire, indispensable for the cooler hours of the dawn, and to scare away snakes or other animals.

178 412 With the advance of civilization the phenomenon of acculturation takes place, new tasks occupying the time and the attention of the Indians. The rhythm of daily life, however, is always the same, in the maloca as well as in the povoado, for the Indians who have always lived there as well as for those who have spent long years in the boarding schools and have returned to their homes.

5: Goldman E-5 (1939-1940) 1963
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CUBEO



From *Kíwaĩ*, the culture hero, the people learned how to fish with hook and line and how to hunt with bow and arrow and with the blowgun. The Indians say that in ancient times they did not hunt the tapir. It was not until they acquired guns that they learned how to kill tapir. Other animals they did not eat because of religious taboos that are no longer in force. Paca and armadillo were devourers of human corpses and were hence forbidden; eating sloth would make people lazy; and finally, all animals whose names were represented in the sib genealogies were taboo to members of that sib.

## PRODUCTION

The Cubeo do not value abundance of food for its own sake. Plenty is, to be sure, widely enjoyed as a break in the daily routine. It is not valued for its promise of satiety, for the Indians customarily eat moderately, but for the opportunity it offers for a gay feast. A big catch of game or of fish excites the people because it does not occur often. There is no desire to overdo, however, and no more is brought than will be consumed directly or can be safely preserved by smoking and drying. Since, at best, smoking preserves meat for only a week or two in the tropical climate there is not much point in increasing a fisherman's or a hunter's "take." Social status is a minor issue in food production since feasting is essentially intrasib, whereas social status comes into play most sharply between sibs.

In short, there are no strong motives to stimulate hunting and fishing other than appetite and desire for variety. The pressure in production falls upon the women. If we are to speak of "surplus" at all in Cubeo food production it can be only in connection with the manioc crop, which is regarded as the woman's contribution, even though it is the men who make the clearing. The limiting factor in manioc production is not land as much as it is labor and morale. A large community under a forceful headman can clear a good deal more land than is needed for subsistence. In the case of manioc, subsistence can be measured precisely by the amount that is converted directly to manioc cake (*duno*) and to tapioca porridge. "Surplus" is what is converted to chicha (*unkúndye*) and to farinha. There can be no doubt but that the machete, now universal in the region, improved the standard of nourishment considerably. The real limitation upon production is woman power. Since women carry through all phases of manioc production, from planting and harvesting to conversion into the final product, they are the ultimate "bottleneck." A woman working only to prepare manioc as food is already fully occupied.

5: Goldman E-5 (1939-1940) 1963
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usually accompanied by an unmarried daughter, who is both helper and chaperon, a dog, and her breast baby. Her equipment is a machete (in the past it was a digging stick), a portage basket, and a tray upon which she rests her baby.

With the machete she cuts the long root at the base of a mature manioc plant and then loosens the earth so as to pull out the cluster of tubers. Each root yields an average of six tubers, two of which are large, two medium, and two small. This phase of the work is difficult but the woman moves quickly and silently. She does not sing at her work. Her daughter, assistant and apprentice, tears each tuber from the root, scrapes it clear of earth, and drops it in the basket. When a basket has been filled the woman gathers up the stems of the manioc plant, trims them of their leaves, and stacks the cuttings neatly in small heaps. She burns the leaves to add ash to the soil. She does not replant the cuttings immediately, but allows them to lie for several days. After an accumulation a woman devotes a morning to replanting. She breaks up the soil of the segment she has harvested and forms it into small mounds, into each of which she puts a number of trimmed cuttings, setting them in at a sharp angle. She works segments of garden that are about 25 yards square. After replanting, the earliest harvest will be after half a year, but full maturity takes two years. Each 25-square-yard segment yields from 50 to 60 pounds of manioc, or one basket load.

Among the *Bahiknwa*, for whom I have productivity figures, the household of the headman harvested 400 baskets of manioc annually. Another household that had three adult women harvested 500. One old woman had a minimum yield of 150 and all other households averaged close to 200. Ten households produced 2,550 baskets, or some 75 tons of manioc a year. A basket of manioc converts into two large manioc cakes. In the headman's household of seven people three cakes were eaten every two days, leaving a "surplus" of close to 30 per cent for use as chicha and as farinha. On the other hand, households producing 200 baskets annually are close to the subsistence line.

The point of this digression into production figures has been to show how exigent are the demands upon the woman's labor. The women feel that they cannot afford to interrupt their labors or they will fall behind. Nevertheless, childbirth, illness, ceremonies – women do not garden on the day of a ceremony – and the press of other activities such as accompanying men on prolonged trips for hunting (in the nature of a respite for a woman) take their toll of labor time. Women do not complain of having too much to do. On the contrary, I have heard the grievance that the manioc garden is too small.

5: Goldman E-5 (1939-1940) 1963
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an who has daughters to help her can prepare a surplus of mash that, covered with banana leaves or stored in a circular bark bin, holds over to the next day. Whatever time a woman spares from manioc cake preparation is immediately absorbed by other duties, among them the making of chicha and farinha, which is simply the manioc routine all over again. When a woman prepares manioc for chicha, however, she has the help of her husband, but only at those stages that are totally distinct from manioc cake preparation. The Cubeo tradition is for men to take no part in *áuno* production, once they have made the clearing. Still, men do help their wives in peeling the manioc tuber. Since the knife has begun to supplant the teeth as a peeling implement, men, who are the most expert in handling knives, feel somewhat more free than formerly to help – but not without embarrassment. I once walked into the house and saw the headman sitting amiably beside his wife and peeling manioc with a knife. Were I a proper Cubeo I would have managed to appear as though I had seen nothing. But the sight was so unexpected I stared. The man flushed and dropped the knife and tuber. Then he collected himself and explained that his wife was not well and so he felt he should help her. He assured me, as his wife smiled, that he never did this ordinarily.

Whereas all women share the same general manioc routine, individual circumstances differ. A young married woman with young children has no one to help her and must work very hard in contrast to an older woman with several daughters who can relieve her of much of the work. A woman with many sons and no daughters has a very heavy burden. The men provide her with a very large garden, they eat heavily, they are sociable and plan drinking parties. An old woman living alone prepares her own small manioc cake ration, and worries rather that she can call on no man to enlarge her manioc garden. Yet in all these individual circumstances one observes leveling factors as well. The household with very young children eats less, has less need to entertain, and has smaller trade needs. The household with grown daughters eats more, entertains more – suitors and their parties for example – and has great needs for trade goods, skirts, and ornaments for the girls. The household with many men has greater access to trade goods through their wage labor and saves on farinha. An old woman living alone may eat with her close kin and so devote her manioc production entirely to farinha, if she desires. There are no significant differences in manioc cake consumption. Families differ only in the rather small prestige of owning trade goods and in

5: Goldman E-5 (1939-1940) 1963
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764 it with a wad and turned to face the corpse. Each man now went with the same slow deliberateness to fetch his gun. The armed men formed a tight circle about the hammock, the widow in their midst pressed against it. Brandishing the weapon, the brother began the funeral declamation, a statement of grief and then anger and the threat of retaliation against the enemy. Each male mourner delivered his own address, always declaring his kinship relationship to the old man. The women accompanied the hoarse shouts of masculine anger with their own counterpoint of grief. After the last man had spoken they all fired their guns into the air together. The widow then withdrew to her hammock and lay silently while the men gathered about the hammock, caressed the corpse, and wept, accompanied in their grief by the women.

[537] When this first wave of mourning, which lasted some two hours, had subsided, the headman's wife arrived, took her place at the head of the hammock, and delivered a long funeral oration that began in anger and ended in tears. As she finished it seemed that the [761] grief had subsided; people stirred about more. Informally, and apparently spontaneously, the inquest began; names were mentioned and evidence cited. Women added their observations to those of the men, each citation being delivered in a loud and angry voice. [622] The headman broke in on this, an hour after his wife had finished [537] speaking. Armed with a gun he, too, approached the head of the hammock and delivered his funeral oration, concluding like the others with grief. During the angry part of his oration he summarized the suspicions and submitted his own. When the headman concluded, all the mourners drifted off and, since it was the middle of the night, all went to sleep. The respite was brief, and well before dawn mourning began again; mourners, men and women, approached the corpse (*yaiyú*) in the hammock, caressed it, and wept.

[823] Preparations for burial began promptly at sunrise. Four men of the sib dug the grave (*tobi'katcino*: hole underneath) four feet deep in an east-west direction to the left of the dance floor at the forward end of the house. They measured the corpse to get dimensions of the grave. When the grave had been dug halfway down one of the men lighted a cigarette and, bending over the sides but not entering the grave itself, blew cigarette smoke into each of its four corners, "so that the dead would always have tobacco."

● [412] It took several hours to dig out the grave with machetes. While this was being done, others were preparing a canoe as the old man's coffin. A man is buried in his own canoe as a rule. However, the canoe of João was an excellent one, whereas one of the men had only re-

6: Moser and Tayler E,N-5 (1960-1961) 1967 SQ19 Tucano SQ19



123 622 the *bréo* flame taking coca with two other men. He is silent and has offered little real assistance; I wonder whether he resents our presence here.'

It did seem at times as though Kuarumey resented our presence, and he later had some cause for his suspicions – certainly in his own mind – when events took an unexpected turn. He was a striking man, tall and rather gaunt, with a proud almost arrogant manner. There was no doubt as to who was the head of the *maloca*, nor that we were visitors, fortunate to have his hospitality. We saw little of him during the daytime and it was some time before we learnt he was making a canoe some distance away in the forest.

501 Though the Tukano travel through the forest on hunting expeditions, canoes are used to go further afield, to fish or to trade with other groups. They are a river people as much as a forest people, and like many Amazonian tribes they have evolved their own methods of making canoes.

[171] The Noanamá, we found, dug out and shaped their canoes from solid wood, and it was necessary for them to find very large trees to do this. Many tribes of the southern Amazon use the bark of a tree, like the North American Indian, while some groups of the Guahibo and the Maku living in areas remote from the larger rivers do not use canoes at all. The Tukano, however, shape their canoes by a process of heat-warping.

A tree – a hard type of cedar – had first been felled, then a twenty-foot section was cut and barked, and allowed to lie for several weeks, before [293] Kuarumey started to cut the wood. Each day he went to the clearing, setting up a palm frond to shade himself when the midday sun broke into the clearing, through the gap in the trees overhead.

[412] Using his *azador*, a curved hoe-like blade, and a long stick with a sharp metal end, he first shaped the outside of the log, scraping off the bark. Then he made holes along its length and began to cut out the centre. It was hard work and he would often break off to make himself a cheroot, using the rolled leaf of a palm, while his eldest son continued the work. Once he disappeared in the jungle to set a monkey trap, a ring-snare high in a tree with fruit as the bait.

[224] He worked carefully, feeling the sides of the canoe so as not to make the shell too thin. After several days it was ready, braced with two small stumps to prevent the sides from closing. Then Kuarumey and several Indians from the *maloca* dragged the hull along the forest paths to the river bank nearly a mile away.

Now the canoe was ready to be warped by burning. This could be undertaken only at certain times of the year when there was no risk of rain, for [412] water on the hot wood might split it. Before they obtained iron and steel the Indians used to cut the trees with their stone axes. They would only partly shape the hull and burn out the centre with fire. Now, with the canoe already shaped, the burning was quicker and it would be completed within a day.